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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,895	02/21/2002	Gereon Vogtmeier	DE010037	3932
24737	7590	02/08/2005	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS			PATEL, SHEFALI D	
P.O. BOX 3001			ART UNIT	
BRIARCLIFF MANOR, NY 10510			PAPER NUMBER	

2621

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/081,895

Applicant(s)

VOGTMEIER ET AL.

Examiner

Shefali D Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 7/1/02; 2/21/02.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to because the box element 13 in Figure 1 need to be labeled in accordance with 37 C.F.R. § 1.83(a) as stated infra. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specifically, 37 C.F.R. § 1.83(a) states that “the drawing in a nonprovisional application must show every feature of the invention specified in the claims. However, conventional features disclosed in the description and claims, where their detailed illustration is not essential for a proper understanding of the invention, should be illustrated in the drawing in the form of a graphical drawing symbol or a labeled representation (e.g., a labeled rectangular box).”

Specification

2. On page 2 lines 7-9, the recitation of claims 1-2 and 7 is improper since the claim numbering might change during prosecution.

Claim Objections

3. Claims 6-10 are objected to because of the following informalities: claims 6-10 recites to “A radiation detector” as claimed in previous claims (claims 1-5). However, please note that claims 1-5 recites “A radiation sensor.” Claims 7-10 also uses the terms “radiation sensor” and “radiation detector” interchangeably. Please be consistence so there are no 35 U.S.C. 112 2nd paragraph antecedence basis issues with these claims. Appropriate correction is required.

Preliminary Amendment

4. Preliminary amendment was received on February 21, 2002 to overcome the multiple dependent issues and was made of record. There are no issues with multiple dependent claims.

Claim Rejections - 35 USC § 102

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5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-3 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Marshall et al. (hereinafter, “Marshall”) (US 6,515,285).

With regard to **claim 1** Marshall discloses a radiation sensor (10) (sensor array 102 in Fig. 1A and at col. 6 line 64; the detector is also described in Figure 12, col. 21) of an integrated type which is provided with at least one light-sensitive and/or X-ray-sensitive sensor element (11) (the sensory array has sensor elements set in rows/columns) whose output signal indicates the amount of radiation absorbed by the sensor element (col. 22 lines 31-37), and with at least one temperature sensor (12, 12a, 12b) whose output signal indicates the temperature prevailing at the temperature sensor (see the temperature sensor 325 in Fig. 1A, col. 6 line 62 and col. 7 lines 1-5).

Claim 2 is rejected the same as claim 1. Thus, arguments similar to that presented above for claim 1 is equally applicable to claim 2. Claim 2 distinguishes from claim 1 only in that it recites all sensor elements (11, 12) delivering similar output signals and being connectable to an evaluation unit (13) as similar components. Marshall teaches the sensor elements deliver similar output and connected to a unit as seen in Fig. 1A. See, also Fig. 1D the control and processor at 114 and 108, respectively.

With regard to **claim 3** Marshall disclosed that the sensor elements are arranged in the form of a matrix (the radiation sensor array 102 in Marshall is in the form of matrix (i.e., columns/rows), see col. 12 lines 7-26).

Claim 10 recites identical features as claim 1 except claim 10 is an apparatus claim. Thus, arguments similar to that presented above for claim 1 is equally applicable to claim 10.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al. (hereinafter, "Marshall") (US 6,515,285) in view of Shih et al. (hereinafter, "Shih") (US 6,297,671).

With regard to **claim 4** Marshall discloses a radiation sensor along with temperature sensor(s) as disclosed above in claim 1 and the arguments are not repeated herein, but are incorporated by reference. Marshall does not expressly disclose a radiation sensor, in that it is provided with a temperature sensor (12a, 12b) which includes a current mirror with two paths (T3-T5, T4-T4), a respective bipolar transistor (T1, T2) being provided in each of the two paths, the base of said bipolar transistor being short-circuited to the collector, the surface areas of said bipolar transistors being different and the current (I) in the current paths being approximately proportional to the temperature of the bipolar transistors.

Shih discloses (Figure 2) a current mirror with two paths (T3-T5, T4-T6) (Shih: 201-203, 205-207), a respective bipolar transistor (T1, T2) (Shih: 215, 217) being provided in each of the two paths, the base of said bipolar transistor being short-circuited to the collector (the collector in Shih's Figure 2 is not labeled but is represented by a GND symbol beneath the bipolar transistors 215 and 217 connecting them), the surface areas of said bipolar transistors being different (see, col. 3 lines 36-41 for surface area that are multiple of 1 and 8 of the bipolar transistors 215 and 217) and the current (I) in the current paths being approximately proportional to the temperature of the bipolar transistors (see, col. 3 lines 41-55).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Shih with Marshall. The motivation for doing so is to produce stable reference voltages VBNDREF and VBIAS based on physical properties of a PN junction of a bipolar transistor as

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suggested by Shih at col. 2 lines 55-58. Therefore, it would have been obvious to combine Shih with Marshall to obtain the invention as specified in claim 4.

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al. (hereinafter, "Marshall") (US 6,515,285) in view of Shih et al. (hereinafter, "Shih") (US 6,297,671) as applied to claims 4 above, and further in view of Kato (US 5,557,194).

With regard to **claim 5** Marshall discloses a radiation sensor as disclosed above in claim 4 and the arguments are not repeated herein, but are incorporated by reference. Neither Marshall nor Shih expressly disclose a sensor characterized in that the current (I) in the current paths is coupled out as an output current (I_{out}) via a further current mirror (T7). Kato discloses this as seen in Fig. 2. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Marshall, Shih and Kato. The motivation for doing so is to have the reference current that has a positive temperature coefficient and therefore, is increased when the temperature rises. Therefore, it would have been obvious to combine Marshall, Shih and Kato to obtain the invention as specified in claim 5.

10. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al. (hereinafter, "Marshall") (US 6,515,285) in view of Shih et al. (hereinafter, "Shih") (US 6,297,671) as applied to claims 4 above, and further in view of Nagumo (US 6,028,472).

With regard to **claim 6** Marshall discloses a radiation sensor as disclosed above in claim 4 and the arguments are not repeated herein, but are incorporated by reference. Neither Marshall nor Shih expressly disclose a sensor characterized in that the difference between the emitter-base voltages of the bipolar transistors (T1, T2) is determined by a coupling out circuit (A) so as to be delivered as an output voltage (V_{out}). Nagumo discloses this as seen in Fig. 33 and col. 24 lines 16-45. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Marshall, Shih and Nagumo. The motivation for doing so is to determine the difference between the

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bipolar transistors. Therefore, it would have been obvious to combine Marshall, Shih and Nagumo to obtain the invention as specified in claim 6.

11. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al. (hereinafter, "Marshall") (US 6,515,285) in view of Gordon et al. (hereinafter, "Gordon") (US 6,256,404).

With regard to **claim 7** Marshall discloses a radiation sensor along with temperature sensor(s) as disclosed above in claim 1 and the arguments are not repeated herein, but are incorporated by reference. Marshall does not expressly disclose a radiation sensor for a computer tomography (CT).

Gordon discloses a radiation sensor for performing CT scans at col. 9 lines 27-28, 41-43; col. 11 line 61 to col. 12 line 26. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Gordon with Marshall. The motivation for doing so is to provide an object's atomic number and density as disclosed at col.9 lines 63 to col. 10 lines 1-3. Therefore, it would have been obvious to combine Gordon with Marshall to obtain the invention as specified in claim 7.

With regard to **claim 8** Marshall discloses the arrangement in order to correct the output signal of the array at col. 12 lines 38-47.

With regard to **claim 9** Marshall discloses making a diagnosis concerning faults and/or ageing of the radiation sensor (col. 12 lines 49-59).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shefali D Patel whose telephone number is 703-306-4182. The examiner can normally be reached on M-F 8:00am - 5:00pm (First Friday Off).


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh M Mehta can be reached on (703) 308-5246. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Shefali D Patel
Examiner
Art Unit 2621

February 4, 2005


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